

CLAIMS

1. A pad assembly for an exercise machine, comprising:
a compressible layer having a first surface adapted to engage a portion of a user's body and a second surface opposite from the first surface; and
a backing member having a non-planar surface engaged with the second surface of the compressible layer.

Sub 17 2. The pad assembly of claim 1 wherein the backing member comprises a contoured support attached to the second surface.

3. The pad assembly of claim 1 wherein the non-planar surface comprises a contoured portion that provides a compressed shape of the compressible layer that approximately corresponds with an anticipated shape of the portion of the user's body.

4. The pad assembly of claim 1 wherein the non-planar surface comprises a contoured portion having a radius of curvature within the range from approximately 1.5 inches to approximately 7.0 inches.

5. The pad assembly of claim 1 wherein the first surface comprises a concave portion adapted to engage a portion of the user's body.

6. The pad assembly of claim 1 wherein the non-planar surface of the backing member is shaped to provide an approximately uniform-thickness portion of the compressible layer when a compression force is applied to the first surface during an exercise.

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7. The pad assembly of claim 6 wherein the approximately uniform-thickness portion is co-extensive with a portion of the first surface adapted to engage the portion of the user's body.

Sub a27 8. The pad assembly of claim 1 wherein the non-planar surface of the backing member is shaped to provide an approximately uniform-pressure portion when a compression force is applied to the first surface during an exercise.

9. The pad assembly of claim 1 wherein the backing member comprises a coupling assembly adapted to attach to an exercise machine.

10. The pad assembly of claim 1 wherein the backing member comprises a contoured backing plate.

11. The pad assembly of claim 1 wherein the backing member comprises an axisymmetric member.

12. A pad assembly for an exercise machine, comprising:
a compressible member having a first surface adapted to engage a portion of a user's body and a second surface opposite from the first surface, the second surface being adapted to engage a contoured backing surface such that a compression force applied to the first surface provides an approximately uniform-thickness portion of the compressible member between the first surface and the contoured backing surface.

13. The pad assembly of claim 12 wherein the second surface comprises a depressed portion adapted to fittingly engage at least a portion of the contoured backing surface.

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14. The pad assembly of claim 12 wherein the contoured backing

15. The pad assembly of claim 12 wherein the approximately

16. The pad assembly of claim 12 wherein the contoured backing

17. The pad assembly of claim 12 wherein the compressible member

18. The pad assembly of claim 12 wherein, when the compressible

19. A pad assembly for an exercise machine, comprising:

20. The pad assembly of claim 19 wherein the backing surface is

21. The pad assembly of claim 19 wherein the approximately

22. The pad assembly of claim 19 wherein the backing surface

23. The pad assembly of claim 19 wherein the backing structure

24. An exercise machine, comprising:

a support frame having a fixed portion and a moveable portion moveably

a load operatively coupled to the moveable portion;

at least one pad assembly attached to the support frame, the pad

a layer of compressible padding having a first surface adapted to

a backing member attached to the layer of compressible padding

25. The exercise machine of claim 24 wherein the backing surface is

26. The exercise machine of claim 25 wherein the backing surface is contoured such that the approximately uniform-thickness portion is co-extensive with a portion of the first surface adapted to contact the portion of the user's body.

27. The exercise machine of claim 24 wherein the backing surface comprises a contoured portion having a radius of curvature within the range from approximately 1.5 inches to approximately 7.0 inches.

28. The exercise machine of claim 24 wherein the backing surface is contoured such that, when a compression force is applied against the first surface, the first surface is adapted to provide an approximately uniform pressure distribution on the portion of the user's body.

29. The exercise machine of claim 24 wherein the moveable portion is pivotably coupled to the fixed portion, further comprising coupling means for moveably coupling the moveable portion to the load so that movement of the moveable portion is resisted by the load.

30. An exercise machine, comprising:

a support frame having a fixed portion and a moveable portion moveably coupled to the fixed portion;

a load coupled to the moveable portion by a coupling means for moveably coupling the moveable portion to the load so that movement of the moveable portion is resisted by the load;

a support surface attached to the support frame proximate the moveable portion, the support surface being adapted to at least partially support a user's body;

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at least one pad assembly attached to the support frame proximate the support surface, the pad assembly comprising:

a compressible member having a first surface adapted to engage a portion of the user's body and a second surface opposite from the first surface, the second surface being adapted to engage a contoured backing surface such that a compression force applied to the first surface provides an approximately uniform-thickness portion of the compressible member between the first surface and the contoured backing surface.

31. The exercise machine of claim 30 wherein the contoured backing surface comprises a contoured pad support projecting from a moveable portion of the exercise machine.

32. The exercise machine of claim 30 wherein the approximately uniform-thickness portion is co-extensive with a portion of the first surface adapted to contact the portion of the user's body.

33. The exercise machine of claim 30 wherein the contoured backing surface comprises a contoured portion having a radius of curvature within the range from approximately 1.5 inches to approximately 7.0 inches.

34. The exercise machine of claim 30 wherein, when the compressible force is applied, the compressible member provides a first surface approximately corresponds with an anticipated shape of the portion of the user's body.

35. The exercise machine of claim 30 wherein the moveable portion comprises a leg yoke and the pad assembly comprises a leg pad assembly attached to the leg yoke.

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36. A method of exercising, comprising:

providing a compressible layer having a first surface, and a backing structure having a non-planar backing surface engaged against the compressible layer opposite the first surface; and

pressing a portion of a user's body against the first surface to compress the compressible layer between the portion of the user's body and the non-planar backing surface and to form an approximately uniform-thickness portion of the compressible layer therebetween.

37. The method of claim 36 wherein pressing a portion of a user's body against the first surface to compress the compressible layer comprises pressing a portion of a user's body against the first surface to form an approximately uniform-thickness portion of the compressible layer that is co-extensive with the portion of the user's body.

38. The method of claim 36 wherein pressing a portion of a user's body against the first surface to compress the compressible layer comprises pressing a portion of a user's body against the first surface to form an approximately uniform-pressure distribution on the portion of the user's body.

39. The method of claim 36 wherein pressing a portion of a user's body against the first surface to compress the compressible layer comprises pressing a portion of a user's leg against the first surface.

40. The method of claim 36 wherein pressing a portion of a user's body against the first surface to compress the compressible layer comprises pressing a portion of a user's arm against the first surface.

41. The method of claim 36 wherein pressing a portion of a user's body against the first surface to compress the compressible layer comprises pressing a portion of a user's shoulder against the first surface.

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